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Monika Kordowska
Sylwia Kulczyk
Uniwersytet Warszawski
Wydział Geografii i Studiów Regionalnych
monika_kordowska11@gazeta.pl
skulczyk@uw.edu.pl

CONDITIONS AND PROSPECTS FOR THE DEVELOPMENT OF ORNITHOLOGICAL TOURISM IN POLAND

Abstract: The article describes the present condition and the development trends of ornithological tourism in Poland. A questionnaire survey, participant observation and interviews have produced a description of Polish bird-watchers and ornithological tourism organizers. A partial distribution of bird-watching sites and needs for development have also been described. Polish ornithological tourism is at an early development stage, however, as in other countries, a dynamic growth of interest in this activity is found.

Keywords: ornithological tourism, wetlands, Poland.

1. INTRODUCTION

Ornithological tourism is an important part of wildlife tourism (KOWALCZYK 2010) for several reasons. First, it has a wide spatial extent – observations can be made in every landscape zone and in different ecosystems. As well garden birds, more exotic field and forest species are interesting too. Secondly, bird-watching develops an eco-friendly attitude and often results in a serious engagement in nature protection. This is why ornithological tourism is often pointed out as one that not just can but should be undertaken in highly protected areas (BUSHELL & EAGLES 2007).

The importance of bird-watching as a tourism activity has systematically grown (CONNELL 2009, COLLINS-KREINER *et al*. 2013). The reason for this is believed to lie in the isolation of modern man from his 'natural roots'. Attempts to get closer to nature during free time are a form of compensation for everyday life in a highly urbanized, technological environment (COCKER 2001, JANECZKO & ANDERWALD 2011). Ornithological tourism has also gradually gained popularity in Poland however this requires further research (CZECHOWSKI *et al*. 2008, JANECZKO & ANDERWALD 2011). The recognition of the diversity and the present state of ornithological tourism is a basic condition for its sustainability (meaning appropriate to the needs of both bird-watchers and the natural environment).

2. METHODS OF RESEARCH

Participant observation on bird-watching trips, interviews with organizers and a questionnaire survey have been used to describe who Polish bird-watchers are and the range of their interests. The study focuses on wetlands as, because of their great species diversity, they are the most attractive bird-watching areas in Poland. The spatial pattern of popular observation sites, the level of their development and response to the needs of users is described.

The quantitative data was obtained by questionnaire surveys from September 2011 to August 2012 directed at Poles interested in bird-watching regardless of age. The questionnaire was emailed to members of groups on Facebook: Polish Society for the Protection of Birds, Lublin Ornithological Society, 'Kulig' – Research Group on Water Birds, Radom Region Naturalists Club, Avestom – an internet portal on birds in the northern Podlasie region, 'Drapolicz' – Society for Migratory Bird Observation, Opole Ornithology Group, 'Salamandra' – Polish Society for Nature Protection, 'Unitis Viribus' – Society of the friends of Słońsk, 'and the Warsaw Society for Bird Protection. 145 replies were obtained and another 85 respondents completed the questionnaire during ornithological meetings and bird-watching trips: a meeting of the Warsaw group of the Polish Society for Bird

Protection (Warsaw, 18.11.2012), 43th Convention of South-East Poland Ornithologists (Krakow, 26-27.11. 2011), a meeting of the Warsaw Society for Bird Protection (Warsaw, 17.01.2012; 11.07. 2012), World Day of Wetlands (Warsaw, 04.02.2012), Polish Birds Rally at Goniądz at Biebrza river (18-20.05.2012), 9th survey of corncrakes at Całowanie Marsh (Podbiel, 07.07.2012), trip to Zawadowskie Islands (Warsaw, 26.08.2012) and the Convention of members and friends of the 'Bocian' Nature Society (29-30.09.2012). In total 230 respondents completed a survey of 26 questions (mainly closed-choice type).

3. WHO ARE BIRD-WATCHERS?

Relative to the total population of the country, there are few bird-watchers in Poland. One of the most popular ornithological societies – Polish Society for the Protection of Birds (OTOP) in 2013 had 4000 members (OTOP website). The number of those who support the society is much higher and is growing dynamically – based on Facebook it was estimated at 6000 in July 2013.

Bird-watchers can be classified depending on their experience and involvement; J.J.VASKE *et al.* (2001) has distinguished four types: 'highly involved', 'creative', 'generalists' and 'occasionalists'. The high number of pro-ecological organizations and the growing interest in voluntary activity for environmental protection shows that most Polish bird-watchers are 'highly involved' or 'creative' (e.g. nature photographers). 'Generalists' and 'occasionalists' seem to be less numerous since bird-watching is still not a mainstream activity.

Bird-watchers are both male (60% of respondents) and female (40%) and their ages are mostly between 21 and 40 (63%), those over 40 are less numerous (32%) and the smallest group are children and teenagers (5%). These results differ from those obtained in the USA, according to DWYER (1993) and WILLIAMS & LA MONTAGNE (2001) bird-watchers are typically middle aged (45-65) or older. Data from Poland is similar to that from Turkey (CAKICI & HARMAN 2007), a country which, like Poland, has a young and still developing bird-watching market. Because ornithology is still gaining in popularity, half of respondents have been involved in bird-watching for less than 10 years (the other half for more). The record belongs to those members of the Polish Society for the Protection of Birds for whom bird-watching has been a hobby for more than 50 years.

Most bird-watchers live in big cities (more than 500 000 inhabitants – 43%) explaining the popularity of bird trips from Warsaw and Poznań, 24% live in towns from 100 000 to 500 000 inhabitants, while 13% come from settlements up to 10 000. The smallest groups are those from medium-sized towns 10-50 000 inhabitants – 12%, and 50-100 0000 – 8%.

73% have higher education and another 20% secondary level which is similar to results obtained in other countries (WILLIAMS & LA MONTAGNE 2001, SIMANGO 2011, CONNELL 2009). 60% have a degree related to natural sciences and their interest in bird-watching resulting from a general love of nature (58%), their degree (14%), and from family and social experience (8% each).

4. FORMS OF ORNITHOLOGICAL TOURISM

The most popular (49%) is the traditional form of bird-watching: observation, often followed by taking notes. At the same time, easier access to high quality equipment makes bird photography increasingly popular – 32%. Another form is listening and recording birds' calls (7% of answers) with the most popular being the recording of males during the mating season. 5% film bird behavior.

As for duration, it is often limited to one-day trips – 64%; trips longer than three days are seldom taken (11%).

Every form of bird-watching has its own specific practice. Usually bird-watchers make their observations alone (80%), rarely in small groups, parties larger than 20 are almost nonexistent with the exception of trips where observation is just one among other attractions. Those who photograph or film are determined solitaries because time and frequency cannot be scheduled. Another disadvantage of taking photos in a group is the risk of disturbing the birds. Group observation is possible (and often pleasant from a social point of view) during spring and autumn migration where birds are often observed at a considerable distance.

5. ORGANISATION OF ORNITHOLOGICAL TOURISM

As stated above, bird-watchers prefer self-organized, solitary trips. However, they are keen to take a part in meetings – lectures, presentations etc, usually attended by up to 100 participants. Such events, usually organized by clubs, offer bird-watchers an opportunity to present and discuss their achieve-

ments. Website forums and mailing lists are another way of staying in touch.

Organized trips are far less common and only 12% took part in trips organized by ornithological societies and just 5% in commercial trips by tourism agencies. The most important reasons for this are the limitations to freedom caused by group size and the high costs of commercial trips. The offer of organized bird-watching trips seemed to be poorly propagated as well – some respondents did not realize that such trips existed.

In Poland bird-watching trips do not fit into the formal structure of tourism organization. Those involved in creating this offer (tourism organizers) often do not figure in the Central List of Tourism Organizers and Agents (*Centralnej Ewidencji Organizatorów Turystyki i Pośredników Turystycznych).* Among organizers of ornithological tourism in Poland are, besides some tourism agencies, clubs, guides and others, for example registered businesses.

In 2012 32 organizers of ornithological tourism were discovered by the authors. There are nine tourism agencies that cater for Polish and foreign tourists, twenty clubs, two guides and one business.

The best known tourism agency, with a national and international bird-watching offer, is 'Horyzonty' from Warsaw, while another popular one is 'Biebrza Eco-Travel' agency from Goniądz working almost exclusively in the Biebrza National Park and nearby. More popular are trips organized by clubs, the first organizers of bird-watching trips in Poland. Attending such events is frequently free of charge or the costs are almost symbolic. The most active clubs are located in the biggest cities or their surroundings. Bird-watching can be combined with other attractions, for example a river cruise (Warsaw Society for Birds Protection website) or bike trip ('Bocian' Nature Society website).

Compared to those countries where bird-watching is well developed, the Polish offer is very poor and little commercialized. Assuming that pro-environment trends will – sooner or later – reach Poland, a deeper specialization and widening of the catalogue to trips abroad should be expected. However, it should be underlined that bird-watching will remain a tourism niche. Ornithological tourists, a relatively small group of well-educated and usually well-to-do people, can select foreign offers as well. A necessary condition for the existence of Polish bird-watching agencies is therefore their competitiveness in quality as well as in price.

6. POLISH WETLANDS AS AN ORNITHOLOGICAL TOURISM SPACE: RESPONSE ANALYSIS

Bird-watching is possible everywhere, but less transformed areas assure an experience of 'getting closer to the nature' (CONNELL 2009). In Poland these are forests, parts of some mountain areas and, above all, the wetlands (JANECZKO & ANDERWALD 2011) that form 13% of the country (SWIANIEWICZ 2006). It should be noticed that a large part of wetland areas are not suitable for the development of common forms of tourism. Wetlands are often protected by law. Even if not, they deserve special management due to their environmental fragility.

According to the respondents two highly protected areas are the best for bird-watching: Biebrza National Park (12% of responses) and Ujście Warty National Park (9%). Both of them have been known as ornithological sites long before the establishment of formal protection. Biebrza National Park has 270 bird species (almost 70% of the Polish avifauna) including more than 180 nesting (CZACHOWSKI *et al.* 2008). Within Ujście Warty National Park 245 bird species have been recorded, including 160 nesting (MĄDRAWSKA & WYPYCHOWSKA 2002). The valley of the River Barycz, and Siemianówka, Turawa, Nysa and Rakutów Lakes are also popular bird-watching areas. Narew National Park, Sobieszewo Island and Całowanie Marsh are well known likewise (Fig. 1).

Besides the most popular sites, 70 more wetlands were indicated as good for bird-watching. The majority

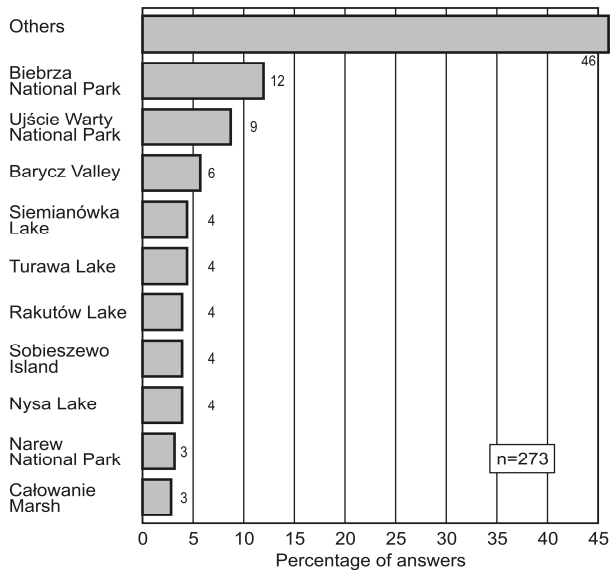
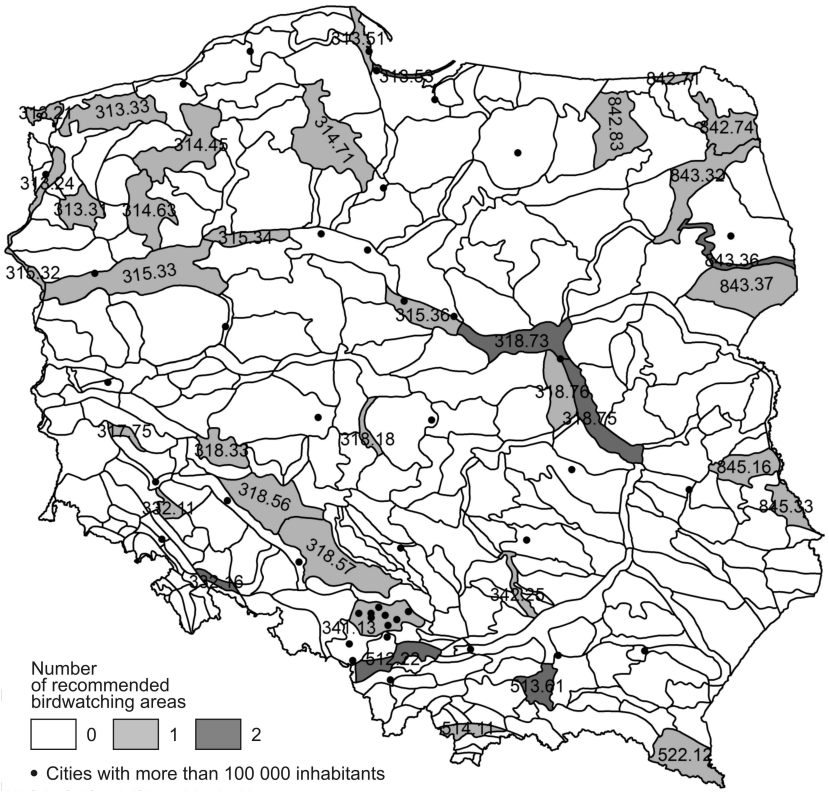


Fig. 1. Wetlands declared as visited in 2011 and 2012; more than one site could be indicated
Source: author

Table 1. Regions with more than one attractive bird-watching area

Region	Bird-watching area	Approx. number of observed species	Species listed in the annex to CE 79/409/EWG directive	Details
Upper Narew Valley	Siemianówka Lake	281	176	One of Poland's most important nesting areas for little crake, white-winged black tern, little tern, whiskered tern and black-headed gull. Important migration stop for Anseriformes and Charadriiformes
	Narew National Park	230	45	One of the most important national refuges for great snipe, aquatic warbler, corncrake, little crake and Montagu's harrier
Upper Vistula Valley	Goczałkowice Lake	200	29	Migration stopover for great crested grebe, great white egret and shoveler, the most important nesting place for night heron
	Zator Ponds	No data	16	One of the few nesting places for ferruginous duck
Middle Vistula Valley	Całowanie Marsh	109	19	An important regional site for Montagu's harrier and corncrake, migration stopover for big groups of grey lag and bean geese
	Vistula Valley	300	22	Winter refuge for wetland species; up to 20 000 individuals
Warsaw Valley	Kampinos Forest	225	58	Important (national level) nesting area for black stork, spotted crake and corncrake
	Confluence of Wkra, around Pomiechówek	60	No data	Important nesting area for corncrake and black-tailed godwit; significant migration stopover point
Vistula Spit	Sobieszewo Island	300	36	The most important site for Sandwich tern; nearly 100% of the national population
	Vistula Lagoon	230	27	One of the biggest breeding colonies of cormorants in Europe (up to 11500 pairs)
Otmuchów Depression	Nysa Lake	200	15	Marsh sandpiper observed during migration
	Otmuchów Lake	215	27	Winter refuge for up to 3000 bean and white-fronted geese
Rożnów Foothills	Czchów Lake	160	No data	Species of natural river valleys, eg. kingfisher, common sandpiper; grey gull, Caspian gull; white-tailed eagle
	Rożnów Lake	180	No data	Species of natural river valleys, eg. kingfisher, common sandpiper; grey gull, Caspian gull

Source: author; regions from J. KONDRACKI (2000); ornithological data: Natura 2000 database, T. WILK *et al.* 2010, B. MRÓZ (2006).



313.21 Uznam and Wolin,
313.24 Upper Odra Valley,
313.31 Pyrzyce Plain, 313.33 Gryfice Plain,
313.51 Kaszubskie Seashore, 313.53 Vistula Spit,
314.45 Drawa Lakeland, 314.63 Drawa Plain,
314.71 Tuchola Forest 315.32 Freienwald Valley,
315.33 Gorzów Valley,
315.34 Middle Noteć Valley,
315.36 Płock Valley, 317.75 Szprotawa Plain,
318.18 Sieradz Valley, 318.33 Żmigród Valley,
318.56 Oleśnica Plain, 318.57 Opole Plain,
318.73 Warsaw Valley,
318.75 Middle Vistula Valley,
318.76 Warsaw Plain, 332.11 Strzegom Hills,
332.16 Otmuchów Depression,
341.13 Katowice Upland, 342.25 Nida Valley,
512.22 Upper Vistula Valley,
513.61 Rożnów Foothills,
514.11 Orawa-Nowy Targ Depression,
522.12 Western Bieszczady,
842.71 Rominty Forest, 842.74 Augustów Plain,
842.83 Great Masurian Lakes,
843.32 Biebrza Valley,
843.36 Upper Narew Valley, 843.37 Bielsk Plain,
845.16 Łęczna-Włodawa Plain,
845.33 Dubienka Depression.

Fig. 2. Regional attractiveness for ornithological tourism (regions by J. KONDRACKI 2000)
Source: author

(75%) of them are protected, mostly as Natura 2000 nature reserves. 25% are small and close to major cities, or are artificial reservoirs.

The spatial distribution of areas considered attractive for bird-watching has been analyzed using the survey data with natural regions (KONDRACKI (2000) – meso-regional level) being used as reference units. This regional division reflects the natural diversity at national level and has served as referencein tourism research (BARTKOWSKI 1986, KISTOWSKI & ŚLESZYŃSKI 2010). The number of sites indicated by respondents as interesting has been recognized as an attractiveness indicator. The attractive areas are dispersed throughout the country (Fig 2.), reflecting the spatial diversity of natural regions including a high number of wetlands (including large river valleys). Table 1 lists the regions for which more than one bird-watching area was identified. It should be noticed that many of them are relatively close to big cities as accessibility is probably the second most important factor (after natural value) of judging the attractiveness of bird-watching areas.

7. THE ENVIRONMENTAL IMPACT OF BIRD-WATCHING

Bird-watchers are environmentally conscious and their environmental sensitivity is further developed thanks to their hobby. The respondents are aware of their impact on wildlife but they try to minimize it. Trampling, littering and noise has been mentioned as the most common negative impacts.

It should be underlined that bird-watching is often transformed from leisure to serious activity for the protection of birds and their habitats. Birdwatchers take part in a wide spectrum of environmental action and thanks to their passion they help to protect migration, nesting and rearing sites as well as natural vegetation. Bird-watchers' activities can be divided in two main groups:

- monitoring of birds (counting, ringing, inventory of nesting);
- protective actions (looking after valuable bird areas, maintenance of nesting sites – for example hay making).

As a result of this, bird-watchers attempt to keep the environmental quality of visited areas high.

However, some threats are associated with mass ornithological tourism. Tourism pressure on local environmental conditions can threaten valuable ecosystems that deserve protection (POSKROBKO 2005). Large groups of tourists fascinated with landscape beauty and wanting to see a new bird may unconsciously destroy bird habitats (ANDERWALD 2007). These threats could be significantly limited by appropriate management of observation areas.

8. TOURISM INFRASTRUCTURE FOR ORNITHOLOGICAL TOURISM

A properly located and designed infrastructure can increase birdwatchers' satisfaction and at the same time lower their environmental pressure. Sometimes its existence is the basic condition that makes bird-watching possible.

The most numerous and useful are watchtowers and platforms (Foto 1.). The towers are usually as much as several meters high while platforms are lower. Helpful in wetlands, they are also protection against trampling while they are often situated in open fields or at a forest border. Inside there are benches that make observation more comfortable.

Hides and walls also play an import role in bird-watching. Hides are usually enclosed and small, embedded in the landscape, from which bird-watchers can observe (responding to their needs), but at the same time limiting disturbance. Hides are equipped with benches and tables displaying the species that can be seen. Apart from permanent elements of tourism infrastructure such as hides home-built constructions exist as well.

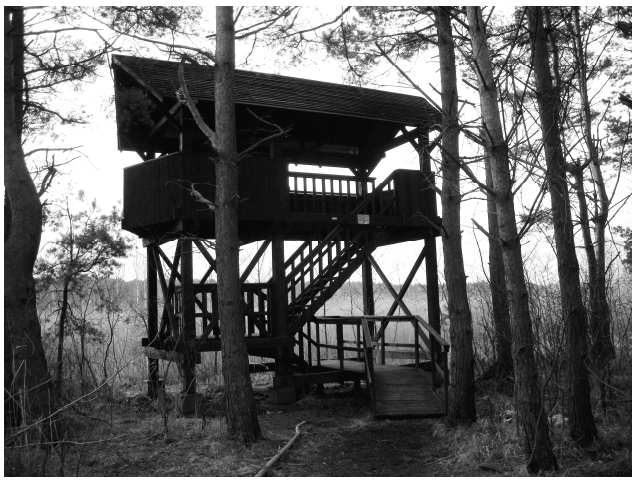


Photo 1. Watchtower on the educational trail 'Bird Paradise', Sobieszewo Island *(Photo by M. Kordowska)*

Observation walls separate bird-watchers and birds, but they have no roof nor place to sit. They are quite popular abroad, for example in Spain, but the first in Poland was constructed in 2012 in the valley of River Barycz (*Nasza Barycz – blisko przyrody* website).

Rental services are also a part of the accompanying base for ornithological tourism, for instance boat or bike hire, and can additionally offer tents, binoculars, waders and other equipment (e.g. portable shelters). In Poland rental services based on bird-watching are almost non-existent while the survey revealed that interest in such an offer is moderate – 38% of respondents considered it necessary. However, one respondent recognized that such services could help to popularize bird-watching. Many people, especially the young, will be happy to gain new experience but they cannot invest in expensive equipment.

An important element of tourist infrastructure is transport. Bird-watchers prefer using cars to reach an observation area as its dimensions and weight allow it to move freely. Passengers form a small group who can be flexible with time while another advantage is that some bulky equipment can be stored in the car. This results in the necessity of providing an adequate number of parking places in the vicinity of bird-watching areas.

Ornithological educational trails are very useful for beginners. They can partly or completely double as tourist trails, or they can be marked separately. The trails are equipped with boards giving information on length, number of stops and level of difficulty, often a map is provided. For some trails dedicated guides are published; for example 'The Bird Trail' in Ujście Warty National Park or the educational trails in the Beka reserve (MARCZEWSKI & BŁASZKOWSKA, no publication date).

Photo 2. The board encourages to attempt first observations. Waterfront of Drwęckie Lake, Ostróda (Photo by S. Kulczyk)

Information boards and signposts are placed alongside trails with information on interesting sites often placed there (e.g. watchtowers or hides). A code of conduct and basic information on flora and fauna are often displayed which are helpful for tourists who do not have a map of the visited area or are not able to name bird species. The boards can encourage ornithological observations from passers-by (Photo 2.). However, their number and dimension should not have a negative aesthetic influence or interfere with contact with nature.

The technical level of the transport and information infrastructure of Polish wetlands has been assessed as moderate to poor (70% of answers) while 30% perceive it as good or very good. Signposts and information boards are the most highly. Existing viewing platforms and watchtowers were assessed as moderate while hides were rated lower. This is probably caused by their scarcity and uneven distribution, limited mainly to highly protected areas. The technical state is poor because of the material used for construction and the lack of funds for renovation.

9. CONCLUSIONS

Ornithological tourism in Poland is increasing dynamically, but in comparison to the UK or USA it is still in an early stage of development. This is demonstrated by the relatively small level of the commercial offer, compared to the popularity of ornithological trips and other events organized by clubs such as the Polish Society for the Protection of Birds and similar local organizations which are attracting growing support.

Polish bird-watchers are relatively young and well educated which makes them opinion leaders and suggests further development of this form of tourism. This will take place in a variety of areas and according to a variety of interests.

Two types of bird-watching area can be distinguished based on the survey. The first are unique natural areas, usually highly protected and widely recognized as worth a visit (for example Biebrza National Park and Ujście Warty National Park). They are well prepared for environmental tourism and frequently visited, even if they are in remote locations. The second are areas located near the homes of birdwatchers irrespective of their natural value, infrastructure and level of protection. The key to their popularity is easy access. However, if this feature is accompanied by a high natural value, their popularity can extend beyond the local area (e.g. Sobieszewo Island near Gdańsk, or Całowanie Marsh near Warsaw).

Little research has been undertaken into ornithological tourism in Poland and mainly focusing on natural values which are best recognized and managed within highly protected areas, mainly in national parks. The conducted research shows that beside this demand is the most important factor for

bird-watching development. The majority of bird-watchers live in big cities and have to fit their hobby around daily duties. This corresponds to trends from other countries (e.g. USA – WEIDENSAUL 2007). More detailed recognition of this would help to bring interests and environmental protection requirements together.

BIBLIOGRAPHY

ANDERWALD D., 2007, *Turystyka ornitologiczna – co to takiego?*, [in:] *Turystyka w obszarach Natura 2000*, Z. Wnuk, M. Ziaja (eds.), Wyd. Uniwersytetu Rzeszowskiego, Rzeszów.

BARTKOWSKI T., 1986, *Zastosowania geografii fizycznej*, Państwowe Wyd. Naukowe, Warszawa.

BUSHELL R., EAGLES P. (eds.), 2007, *Tourism and protected areas – benefits beyond boundaries*, CABInternational, Wallingford.

CAKICI A., HARMAN S., 2007, *Leisure involvement of Turkish bird-watchers*, „Anatolia", vol. 18, pp. 152–160.

COCKER M., 2001, *Birders: tales of a tribe*, Jonathan Cape, London.

COLLINS-KREINER N., MALKINSON D., LABINGER Z., SHTAINVARZ R., 2013, *Are birders good for birds? Bird conservation through tourism management in the Hula Valley, Israel*, „Tourism Management", vol. 38, pp. 31–42.

CONNELL J., 2009, *Birdwatching, twitching and tourism: towards an Australian perspective*, „Australian Geographer", vol. 40, no. 2, pp. 203–217.

CZECHOWSKI P., INDYKIEWICZ P., JERZAK L., 2008, *Obserwacje awifauny. Uwarunkowania i plany rozwoju turystyki*, t. 1: *Przyrodnicze zasoby turystyczne i metody ich oceny*, Wyd. Naukowe UAM, Poznań.

DWYER J.F., 1993, *Customer diversity and the future demand for outdoor recreation. Proceedings of the 1993. Northeastern recreation research symposium, 1993 April 18-20, Saratoga Springs*, NY. Gen. Tech. Rep. NE-185. PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station.

JANECZKO E., ANDERWALD D., 2011, *Birdwatching jako nowa forma turystyki na obszarach leśnych i przyrodniczo cennych w Polsce*, „Studia i Materiały CEPL w Rogowie", 2 (27), pp. 307–314.

KISTOWSKI M., ŚLESZYŃSKI P., 2010, *Presja turystyczna na tle walorów krajobrazowych Polski*, „Prace Komisji Krajobrazu Kulturowego", 14, pp. 36-51.

KONDRACKI J., 2000, *Geografia regionalna Polski*, Wyd. Naukowe PWN, Warszawa.

KOWALCZYK A. (ed.), 2010, *Turystyka zrównoważona*, Wyd. Naukowe PWN, Warszawa.

MARCZEWSKI A., BŁASZKOWSKA B. (no publication date), *Rezerwat przyrody Beka. Przewodnik po ścieżce edukacyjnej*, Ogólnopolskie Towarzystwo Ochrony Ptaków, Marki.

MĄDRAWSKA M., WYPYCHOWSKA D., 2002, *Ruch turystyczny w Parku Narodowym „Ujście Warty"*, [in:] J. Partyka (ed.), *Użytkowanie turystyczne parków narodowych. Ruchy turystyczne – zagospodarowanie – konflikty – zagrożenia*, Instytut Ochrony Przyrody PAN, Ojcowski Park Narodowy, Ojców.

MRÓZ B., 2006, *Łąki zalewowe przy ujściu Wkry i Narwi – o walorach przyrodniczych i potrzebie ich ochrony*; www.kp.org.pl/nasza wisla/pdf/srodkowawisla.pdf; 03.03.2014.

Nasza Barycz – blisko przyrody; http://nasza.barycz.pl (21.07. 2012).

Natura 2000, baza danych; http://natura2000.gdos.gov.pl/data files; 03.03.2014.

Ogólnopolskie Towarzystwo Ochrony Ptaków; www.otop.org.pl; 21.10.2012.

PARTYKA J. (ed.), 2002, *Użytkowanie turystyczne parków narodowych. Ruch turystyczny – zagospodarowanie – konflikty – zagrożenia*, Wyd. Instytut Ochrony Przyrody PAN, Ojcowski Park Narodowy, Ojców.

POSKROBKO B., 2005, *Zarządzanie turystyką na obszarach przyrodniczo cennych*, Wyd. Wyższej Szkoły Ekonomicznej w Białymstoku.

SIMANGO S.S., 2011, *The evolution, structure and market for birding tourism in South Africa*; http://wiredspace.wits.ac.za/bitstream /handle/10539/10384/Masters%20research%20report,%20final%20submission%20PDF.pdf?sequence=2; 01.07.2013.

Stołeczne Towarzystwo Ochrony Ptaków; www.stop.eko.org.pl; 02.08.2012.

SUCHANT R., BRAUNISCH V., 2004, *Grouse and Tourism in Natura 2000 areas*, Forstische Versuchs- und Forschunganstalt Baden -Würtenberg, Freiburg.

SWIANIEWICZ M., 2006, *Strategia ochrony obszarów wodno-błotnych w Polsce na lata 2006-2013 wraz z planem działań i kalkulacją kosztów*, Wyd. Naukowe Gabriel Borowski.

SZPILKO D., ZIÓŁKOWSKI R., 2010, *Zagospodarowanie turystyczne obszarów chronionych województwa podlaskiego*, „Ekonomia i Zarządzanie", vol. 2, no. 1, pp. 52–73.

Towarzystwo Przyrodnicze „Bocian"; www.bocian.org.pl; 02.08. 2012.

VASKE J.J., WITTMANN K., WILLIAMS T.V., HARDESTY K., SIKOROWSKI L., 2001, *Wildlife Viewing in Colorado: A Review and Synthesis of Existing Data*, Colorado State University, Fort Collins.

WEIDENSAUL S., 2007, *Of a feather: a brief history of American birding*, Hartcourt, Orlando.

WILK T., JUJKA M., KROGULEC J., CHYLARECKI P. (eds.), 2010, *Ostoje ptaków o znaczeniu międzynarodowym w Polsce*, Ogólnopolskie Towarzystwo Ochrony Ptaków, Marki.

WILLIAMS S., LA MONTAGNE K., 2001, *Birding in the United States: A Demographic and Economic Analysis*, U.S. Fish and Wildlife Service, Washington.